

November 1999

## Chairman's message

Greetings from the Board! This is the first newsletter sent out this fall by the new Board of Directors. The previous Board published our last newsletter back in August. Activities so far this fall have included luncheon featuring presentations by Sally Little and Gerald Russell, the Great Paper Airplane contest, and a tour of the supersonic Air France Concorde.

We have several exciting activities planned for the upcoming months. These include plans for several luncheons featuring local leaders of the aerospace industry, the Great Moon buggy contest, "Hug the Hardware," a possible tour of the Delta IV assembly facility, and presentations by one or two Distinguished Lecturers. Also coming up from the 16 - 19 July of 2000 is the 36th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit "Propulsion--Key to Exploring New Worlds" in Huntsville.

We also have a luncheon speaker scheduled for Monday, November 22<sup>nd</sup>. Hopefully, this notice will reach you in sufficient time for you to make plans to attend. I noticed several years ago (prior to joining the Board) that it is a

challenge to get newsletters and meeting notices prepared, copied, addressed, mailed and into the hands of the membership in a timely fashion. After joining the Board, I began collecting email addresses to build the email notification network. This has become a very important tool to pass on last-minute arrangements for several of the tours we have taken recently. Some things cannot be planned months in advance. Email is also becoming more important for announcing speaking engagements as well. This past spring we found out only two days in advance that we could join the Experimental Aviation Association at Moontown to hear Burt Rutan speak. Currently we are trying to determine how we can schedule speaking engagements with two of our distinguished Section members who currently reside outside our immediate vicinity (Dr. Kenneth Harwell, Chief Scientist at the Air Force Research Labs in Dayton, OH; and Dr. Robin Buckelew, Dept. of the Army in the Pentagon). If we cannot select a date sufficiently far in advance to send out a notice via "treemail" (a paper flyer through regular mail), we may have to rely entirely on the email network. Make sure your name is on our list, and let us know when your email

address changes!

We live in an exciting time for the aerospace industry in the Alabama/Mississippi Section. There is a lot going on in area including the Pathfinder series, commercial space launchers, Space Station fabrication and launch, strategic and theater missile defense, Army aviation, Shuttle upgrades, plus a wide range of other projects underway. Hopefully, the programs sponsored by our Section will help enrich all of our lives by cultivating a greater understanding of the technologies and the people who make these things happen. It is the members within the Section who advance our collective knowledge the aerospace sciences. The Board simply tries to provide opportunities, organization, and resources to help further the cause. Your participation is the real "active ingredient" in this recipe. Please help us learn how we can better serve the community by completing the enclosed survey.

We look forward to seeing you soon. Thank you,

## Supernumerary appointment

At the October Board meeting, Dr Earl Pearce of Birmingham was selected to be the Supernumerary Director for the Alabama/Mississippi Section. Supernumerary Directors serve terms of two years, and they must reside within the AL/MS Section but at least 75 miles from Huntsville. One of their duties is to prevent the Section from becoming too "Huntsville-centric." Dean Allie Smith from Ole Miss is the outgoing Supernumerary, and the Section would like to thank him for his contributions over the past several years. Dr. Pearce graduated with a B.S. in Mechanical

Engineering from Auburn, followed that with a B.S. in Aeronautical Engineering from the U.S. Naval Postgraduate School and a Masters of Business Administration from U.A.B. He served for 21 years in the U.S. Navy. He flew jet fighter airplanes off carriers accumulating 3700 flight hours and 550 carrier landings on eleven carriers. The last plane he flew was the Phantom. He also served as the Aeronautical Engineering Duty Officer. He retired from the Navy in 1972. After joining U.A.B., he served as the Fiscal Officer for non-medical side from 1973-1982. Following that, he taught mechanical engineering from 1982 through 1990 as Assistant

Professor. He retired in 1990. Live on a farm 37 miles Northeast of Birmingham. He enjoys the AIAA meetings. "They allow me to live vicariously and think airplanes several times during the year. I especially enjoyed the Burt Rutan meeting last year." Welcome onboard!

## UAH AIAA Student Section

On August 30th, approximately 50 interested students came to the first meeting of the year. The hungry students devoured 10 pizzas, chips and soda. Dr. Kendall Brown, UAH graduate and Chief Propulsion Engineer of Space America, Inc., also came to the meeting to speak to us about the liquid propellant rockets currently being developed by his company. Dr. Brown discussed propulsion system design issues for commercial launch vehicles and ended his talk with a video of rocket igniter testing. The engine tests, with all of their fire and glory, were fun to watch. Many thanks to Dr. Brown for devoting his time to come speak to us!

On September 17th, Bobby Johnson gave 13 students a tour of the NASA

MSFC Microgravity Development Lab. We were able to see work in progress in the clean room there. The glove box used for shuttle missions and aboard the Mir Space Station was a highlight of the tour. Thank you, Mr. Johnson!

Mr. Gerald Russell of the US Army Aviation and Missile Command spoke to AIAA students on October 5 about supersonic/hypersonic thermal protection material design and analysis for sled technology improvement. Mr. Russell brought along some materials that have been through these tests for the students to see. Thanks to Mr. Russell for coming to give a brief to us!

And finally, Mr. John Hagen, an instructor at the National Test Pilot School, gave the UAH AIAA students an overview of the school on October 14th. It was incredibly interesting to hear

about the program one must complete to become a "certified" test pilot. About 30 students came for the talk, and we would all like to thank Mr. Hagen for his overview.

We are planning on attending the Regional Student Conference in April. Since we usually try to help students defray the costs of travel for the conference, we are trying to raise money for our club. If you would like to make a donation (which is fully tax-deductible) to the Student Section, it would really help us out! Please contact Syri Koelfgen, the UAH AIAA Student Chair at koelfgs@email.uah.edu or 544-1870 if you would like to make a donation or become involved with UAH AIAA student events.

Syri Koelfgen

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## Concorde Tour Summary

Shortly after the Air France Concorde arrived in Huntsville on Friday, November 5th, a group of about 35 AIAA members (plus about 5 "future members") were treated to a first class tour. We contacted Air France more than a month in advance of the trip, and the Air France agent who was in charge of the Concorde for the Huntsville trip contacted us to make final arrangements.

At first, they offered to give 10-20 of us a tour of the inside (the interior cannot be described as "spacious" and they usually don't allow more than 5 people inside at one time for tours). Knowing how popular this opportunity was likely to be, we asked if, instead of the interior tour, we might be allowed to have more people included on a ramp tour outside the aircraft. They agreed that they could accommodate up to 40 of our members. We sent out notice of the tour via the email network, and we asked everybody who was interested to reply and have their name added to the tour list. The email that contained the final tour arrangements was sent out to a total of 101 email addresses! Some of those who signed up had given 2 email addresses, and we estimate that at least 90 people signed up for the tour. Since we began the tour at 4 PM on Friday afternoon, many who signed up were unable to attend, and we ended up with approxi-

mately 40 people on the tour. We ended up getting a tour of both the interior and outside of the Concorde. Words fail me in describing what we saw, so it is better to let the photos tell the story here.

This tour serves as yet another example of why the members should join the email network. The arrangements for this tour were very fluid up until the last minute since the Air France personnel had to work with the Security Police at the Huntsville airport to give us access to

the ramp for the tour of the outside. We could not have notified the members of this opportunity and contacted them with the last-minute arrangements for this tour using regular "tree-mail" (paper notices).



Cockpit, left side view

## Concorde Tour Summary (continued)



Afterburners / Thrust reversers



Right side, rear view



Under nose

## Space Station Viewing From Huntsville

Ever want to see the International Space Station when it flies over head? Well it happens more than you might think! Go to the following link "<http://spaceflight.nasa.gov/realdata/sightings/index.html>" and get a current viewing schedule for over 10,000 locations on earth. Watch has the space station grows bigger and brighter over the next few years (at assembly complete the station will appear brighter than the planet Venus)!

Also whenever a Space Shuttle is launched to an inclination of 56 degrees it to is visible from the ground! (Two years ago, from Huntsville you could see the Mir Space Station, a Space Shuttle, a Soyuz spacecraft and the spent upper stage of the Soyuz launch vehicle flying in formation one after the other ( a breath taking sight!)

## Imaginations Soared During AIAA's 5th Great Paper Airplane Contest

AIAA held its 5th annual Great Paper Airplane Contest at NASA's Marshall Space Flight Center on Friday, October 1, 1999. AIAA hosts the annual contest to help educate children and adults in our community about the science and art of aeronautics by spurring their imagination and excitement. Over 75 people (adults and children) attended the event. This was "pop-science" at its best! On this special day, children and adults were able to try their hand at being aircraft designers and aviators as they competed with paper airplanes for awards in the areas of (1) accuracy, (2) artistic appeal, and (3) time of flight! The longest fly entry was 15 seconds! Close to a world record! Certificates and T-shirts were presented to each 1st through 3rd place winner in all categories! Every Child received a ribbon in recognition of their efforts!

The contest was held from 4:00 to 5:30 p.m. in Building 4752, the Activities Building at NASA's Marshall Space Flight Center. The contest is always free, open to the Public. Please plan to attend next year.

## **AIAA Luncheon Program**

Featuring: Matt Triplett  
Propulsion and Structures Directorate  
U.S. Army Aviation and Missile Research, Development and Engineering Center

Subject: Composite Structures and Materials

When: Monday, November 22 1999

Where: Marshall Space Flight Center, Building 4203 Cafeteria

Schedule: 11 a.m. - 11:15 a.m. Sign-In and Social  
11:15 Buffet Lunch  
11:45 - 12:15 speaker

Cost: \$7.50

Mr. Triplett has been employed by the Army at Redstone Arsenal for 12 years. Prior to his current position in Composite Structures, he worked in rocket motor and warhead testing and in launcher development. He obtained his Bachelor of Science in Civil Engineering from Auburn University in 1987 and his Master of Science in Civil Engineering from the University of Alabama in Huntsville in 1995. Primary areas of research and development are finite element analysis, progressive failure analysis, and impact damage analysis of Composite Structures.

Please make your reservation as soon as possible with Richard Wilson at 256-544-1977, richard.wilson@msfc.nasa.gov, or Todd Honeycutt honeycutt@photon.com

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### **New Associate Fellows for AL/MS Section**

Congratulations to the following new Associate Fellows from our Section:

Albert Bennett  
Bob Cook  
Robert Frederick  
Carlson Pian,  
Tony Springer  
Arthur Stephenson  
Zahir Warsi  
Mark Whorton.

A notice of their selection will appear in the January edition of Aerospace America and they will all be recognized and will receive their certificate and pins at the AIAA Foundation Associate Fellow dinner which will be on Monday, January 10, 2000. The dinner is held each year in Reno, NV during the Aerospace Sciences Meeting and Exhibition. Anyone who is attending ASM should try to attend the dinner to congratulate the new Associate Fellows.

### **Web site update**

Those of you who have tried to access our web site over the past few months would have noticed that the information it contained was a bit dated. To make a long story short, all passwords on the computer that hosts our web site were revoked after computer hackers targeted that network. It took quite a while to reestablish our privileges on that network. At the same time, we undertook what will be a major upgrade to our entire electronic data distribution system. Before too long, the web site will be reformatted with several enhanced features, and hopefully we can incorporate several email network enhancements as well. We hope these upgrades will be worth the wait.



# AIAA AL/MS SECTION'S SURVEY OF PROGRAMS AND SERVICES

## Survey of Programs

The Board would like to get some feedback and ideas concerning the programs, tours and other services that are coordinated by the Board. Please let us know what you'd like to have our Section do for you by completing the following survey:

### Speaking engagement subject matter:

Which of the following topics most interest you?

- ☐ Current NASA space transportation programs
- ☐ Commercial launch vehicle developments (Roton, Sea Launch, ...)
- ☐ Space Station; Space Shuttle history & upgrades
- ☐ MSFC history and the Apollo-era launcher development
- ☐ Army helicopters
- ☐ Army missiles
- ☐ Army and BMDO strategic and theater missile defense
- ☐ Lighter than air vehicles, unmanned aerial vehicles
- ☐ General aviation (Beechcraft, Cessnas, Pipers, ...)
- ☐ Commercial airliners
- ☐ A report from one of the local members of AIAA's Technical Committees
- ☐ The X-Prize
- ☐ Return to the Moon and Mars exploration
- ☐ Other, please specify: \_\_\_\_\_
- ☐ Other, please specify: \_\_\_\_\_
- ☐ Other, please specify: \_\_\_\_\_

### Program Content:

In which of the following types of activities are you most interested?

- ☐ Speaking engagements
- ☐ "Hug-the-Hardware" tours of facilities, aircraft, etc.
- ☐ Career development seminars
- ☐ Opportunities for socializing, networking, and job-shopping
- ☐ Building a replica of the Wright Brother's Flyer as part of the 2003 Celebration of Flight
- ☐ Helping K-12th grade students as a consultant with science fair projects
- ☐ Serving as a judge in local science fairs and the AIAA student conference
- ☐ Getting together for a "video night" to watch one of the videos National AIAA's loans out

### Price:

To the best of our memories, the price for our luncheons over the past several years has varied from \$9 - \$11, and the price for dinners have been from \$15 - \$18.

Would those members who don't regularly go to these functions be more inclined to attend if we found less expensive places to eat?

☐ Yes or ☐ No

Would brown-bag "Lunch and Learn" meetings stimulate greater interest? ☐ Yes or ☐ No

### Time (for speaking engagements):

Are luncheon meetings preferred? ☐ Yes or ☐ No

Are dinner meetings preferred only during the winter months (when yard work and sports don't compete)? ☐ Yes or ☐ No

### Time (for "Hug-the-hardware" tours):

We have held the last few tours during an extended lunch break (11:00-1:00).

Would tours after hours (6-8 PM) or on weekends (Saturday morning from 9-11 AM) be better? ☐ Yes or ☐ No

### Electronic Data Services Survey:

We already distribute the Telemetry newsletter and meeting reminder notices via the email network. As we upgrade our electronic data services, we must revisit the 3 issues listed below. Note that these issues apply only to the Telemetry newsletter; the reminder notices will be unchanged.

(Continued on next page)

Issue #1, Format: Thus far, we have been transmitting the Telemetry in plain text as well as Microsoft Word format. The Word files tend to be large (0.5MB – 2MB). We now have the capability to send these in PDF (Adobe Acrobat) format, and they tend to be much smaller (100KB).

Question #1a: Which format is preferred? ☐ text, ☐ PDF, ☐ Word

Question #1b: Does anyone have any problems reading PDF format? ☐ Yes or ☐ No

Issue #2, Delivery: Thus far, we have been delivering the newsletter directly to the members. An alternative method is for us to send the membership the notification that a new Telemetry issue can be found on our web site. We can hyperlink the file so that you can download it with a mouse click.

Question #2: Should we “deliver Telemetry to your doorstep” or do you prefer to retrieve it at your leisure?

☐ e-mail it to me or ☐ remind me to retrieve it

Issue #3, Going Paperless: Approximately half of our Section's budget goes to cover expenses related to reproducing and mailing out the newsletter and flyers. We have asked whether or not those members getting the electronic copy would like us to eliminate the paper copy. Only about 10% provided any response (most said "Save the trees").

Question #3: For members on the email network, should we assume that we can eliminate the paper copy, unless you request to continue receiving the paper copy? ☐ Yes or ☐ No

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Please return your survey inputs to us either by regular mail or email. To return using regular mail, simply fold this sheet over so that our address is visible, staple it at the edge, and put a stamp on it.

To respond via email, send your inputs and other (related!) thoughts to: [honeycutt@photon.com](mailto:honeycutt@photon.com)

If you received the paper copy of this survey and want to respond via email, you may download an electronic copy at our web site: <http://www1.msfc.nasa.gov/aiaa>

One of the people who respond to the survey will be picked (at random) to receive a free meal at the next luncheon meeting.

Thanks for your help!!

AIAA AL-MS Section  
P.O. Box 7208  
Huntsville, Alabama 35807

Place  
Stamp  
Here



**AIAA AL-MS Section**  
**P.O. Box 7208**  
**Huntsville, Alabama 35807**

## **Solicitation of email**

Currently over 249 (out of 950+) members have joined the Section's email list. They receive last minute notices of Section activities as well as the Telemetry Newsletter. The Telemetry can be sent out in plain text format or Adobe Acrobat "PDF" format including any graphics which are a part of that issue. The last Telemetry was about a 25KB file in the text only format while it was approximately 150B in the PDF version. Several members have requested that they receive just the electronic version and that the "Tree mail" paper

edition be discontinued in an effort to save the rain forests!! We have figured out how to filter our mailing labels with AIAA National, and we will be eliminating the paper copies for those who have requested that. (Also the results of our survey will help us figure out how best to conserve paper).

Remember to keep us informed if your email address changes. Several companies have merged or changed mail servers recently, and we need to stay abreast of these changes.

If you want to be added to the AL/MS Section's email address list, send a note saying something like "Add me to

the (PDF or text) AIAA list" along with your email address to: "Honeycutt@photon.com" Also let us know whether or not you would like the paper copy of Telemetry discontinued. (we can restart the paper copy at any time). Please include your zip code with this request, since the address labels are sorted this way. The memberships email addresses are treated confidentially - we don't distribute these to anyone. You'll not get any junk email because of us!!

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### **2003: 100th anniversary of the Wright's first powered flight 2001: 75th Anniversary of the Birth of the Space Age**

In three short years we will be celebrating a century of powered human flight. AIAA National has taken a leading role in this celebration of the achievements that have been so important to our profession and the future that we will create. A new web page has been created to help in the celebration ([www.flight100.org](http://www.flight100.org)), please take a minute to give it a look.

The Board has decided to support projects that will celebrate both the 100th anniversary of the Wright Brother's flight and the 75th anniversary of rocket flight. We are soliciting ideas and looking for people who want to get involved to help celebrate these historic occasions. One idea that has been proposed for the 2003 celebration is to build a replica of the Wright brothers' Flyer. (Based on discussions we have heard at the National AIAA level, there are likely to be several such Wright Flyer replicas built across the U.S.). A similar idea to help celebrate the 75th anniversary of rocket powered flight is to build a replica of Goddard's rocket (this is described below). We have not heard of any similar projects, and this may be an activity unique to our Section! In the next Telemetry, we will present a description of other projects that our members have proposed. Interested persons can contact Alfred Wright at (256) 876-8037 ([wright-al@redstone.army.mil](mailto:wright-al@redstone.army.mil)).

**One idea to celebrate 2001:** The 75th Anniversary of rocket powered flight In two years, we will be celebrating two events that would have momentous consequences for space flight. In 1926, K.E Tsiolkovskii published a paper proposing the use of LH/LOX for rocket propulsion. Unfortunately, few took notice outside of Russia. Similarly, the birth of the space age occurred with barely a whimper on a small farm in Auburn, Massachusetts. That year, Robert Goddard launched the first liquid-fueled rocket.

A large percentage of AL/MS Section members involved with space flight of some sort (especially those in the Huntsville area). We would like to solicit member interest in contributing time towards an activity that would both celebrate this anniversary and encourage young people to consider it for a career. This is an activity that would give us an opportunity to build hardware, not just design and evaluate it. There are a number of options. A flyable replica of Goddard's first liquid-fuel rocket is one option that is being pursued. Competition in one of the space flight prizes is another.

One year after Goddard's first flight, Charles Lindbergh won the \$25,000 Orteig Prize for his solo crossing of the Atlantic Ocean in the Spirit of St. Louis. At the time, prizes were deemed the best motivator to develop aviation technology. Until recently, this spirit of competition has been missing from space development efforts. Governments, not private citizens, funded launch vehicle

research and development. That has changed.

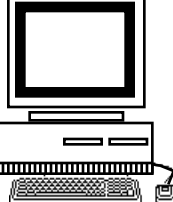
Everyone in the aerospace industry should have become familiar with the X-Prize by now ([www.xprize.org](http://www.xprize.org)). The goal of this contest is the development of low-cost, manned, launch systems. No funding may come from any government entity. This contest has sparked a number of innovative development efforts such as the Roton, from the Rotary Rocket Company ([www.rotaryrocket.com](http://www.rotaryrocket.com)) to Scaled Composites ([www.scaled.com](http://www.scaled.com)). A successful flight nets the winner a \$10 million dollar prize. The development effort required for a manned flight is a bit daunting. The second major prize offered is of somewhat more manageable scale, and is something that should be within the resources of the Section membership.

The Cheap Access To Space (CATS) ([www.space-frontier.org](http://www.space-frontier.org)) is a \$250,000 prize offered by the Space Frontier Foundation and Foundation for the International Non-Government Development of Space (FINDS). This prize has a similar goal: foster the development space flight technology that doesn't require the resources of governments. Instead of a manned flight, a 2 kg payload must be launched to 200km by 8 November, 2000.

Many of us live in the "Rocket City" yet spend the lion's share of our time in front of a computer. Does anyone out there want to fly? Interested persons can contact Jim Stutts (256) 721-9572 ([jstutts@schafer.com](mailto:jstutts@schafer.com)).

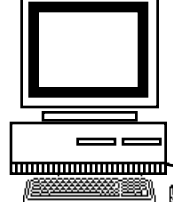
## Alabama-Mississippi Section AIAA Board Members

<u>Position:</u>	<u>Name:</u>	<u>Phone Number:</u>	<u>E-Mail Address:</u>
Chairman	Todd Honeycutt	256-536-2428	honeycutt@photon.com
Vice-Chairman	Richard Wilson	256-544-1977	richard.wilson@msfc.nasa.gov
Treasurer	Arloe Mayne	256-881-7124	ArloeWJr@cs.com
Secretary	Alan Lowrey	256-461-4398	gordon.lowrey@ums.msfc.nasa.gov
Webmaster/Newsletter	Joe Szedula	256-922-3314	joe.szedula@hsv.ast.lmco.com
Membership	David Sisk	256-922-3347	dave.sisk@lmco.com
Technical	Jim Stutts	256-721-9572	jstutts@schaferhsv.com
Education	Dr. Wayne McCain	256-233-6501	drwayne@athens.edu
Awards	Tom Hancock	256-961-4002	thomas.hancock@hsv.boeing.com
Pre-College Outreach	Joe Sims	256-544-4650	joe.sims@.com
UAH Student Rep	Syri Koelfgen	256-544-1870	koelfgs@email.uah.edu
Young Members	Dr. Ivana Hrbud	256-544-2465	ivana.hrbud@msfc.nasa.gov
Public Policy	Olen Britnell	256-837-6605	olenb@aol.com
Career Enhancement	Eddie Lawhorn	256-961-4359	eddie.lawhorn@hsv.boeing.com
Flight 100 contact	Alfred Wright	256-876-8037	wright-al@redstone.army.mil
Deputy Director of Region II for Membership; Chairman of the National Standing Committee for Membership	Bob Noblitt	256-533-3714	bobby.noblitt@trw.com



The newsletter and information on AIAA activities can be found on our web site. You can subscribe to our electronic newsletter on our web site so you're notified each time something new is posted. Our web site is located at:

**<http://www1.msfc.nasa.gov/aiaa/>**



AIAA AL-MS Section  
P.O. Box 7208  
Huntsville, Alabama 35807

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